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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,371	09/25/2003	Pingfan Wu	128435-1	2370
6147	7590	01/28/2005	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 NISKAYUNA, NY 12309			EVANS, FANNIE L	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/605,371

Applicant(s)

WU ET AL.

Examiner

F. L. Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-24 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 25, 26, 29, 30 and 35-37 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8-11, 27, 28, 31-34 and 38-42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0903</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The prior art cited in the information disclosure statement filed on September 25, 2003 has been considered.

### ***Claim Objections***

Claims 31-33 are objected to under 37 CFR § 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 31 does not further limit claim 24 in that the claimed step is set forth in claim 19 from which claim 24 depends. Claims 32-33 inherit the problem of claim 31. Applicant is required to cancel the claims or amend the claims to place them in proper dependent form

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 35-37 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The lack of an antecedent for "said second fiber" in line 3 of claim 35, line 2 of claims 36 and line 1 of claim 37 renders these claims and any claim dependent therefrom indefinite. Correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6, 7, 25, 26, 29 and 30 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Zhang et al (US 6,762,835 B2).

Zhang et al disclose an in-situ laser plasma spectroscopy apparatus, comprising : an enclosure (dotted lines in Fig. 1) for housing a laser energy source (1); a main fiber (4) connected to said enclosure at a first end of said main fiber (4), and connected to a probe (13) at a second end of said main fiber (4), said main fiber (4) configured for transmitting input laser energy from said laser energy source (1) to a target (30) and for transmitting laser induced plasma emission signals (column 5, lines 21-24) back from said target (30), and said probe having a single focal lens (10) for directing said input laser energy from said main fiber (4) to said target (30), and for directing said laser induced plasma emission signals (column 5, lines 21-24) from said target (30) to said main fiber (30). The enclosure further includes a beam splitter (3) for directing the input laser energy from said laser energy source (1) into the main fiber (4), the beam splitter (3) is further configured for directing said laser induced plasma emission signals from the main fiber (4) to a second fiber (5) in communication with the enclosure, wherein said second fiber (5) is configured to transmit said laser induced plasma emission signals to a spectrometer device (12) for analysis of the laser induced plasma emission signals. The enclosure also includes a first lens (7) for focusing the input laser energy reflected from the beam splitter (3) into the main fiber (4) and a second lens (11) for focusing the laser induced plasma emission signals directed from the

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beam splitter (3) into the second fiber (5). An intensified charge-coupled device (ICCD) camera (16) is attached to the spectrometer device (12) and a computer (19) is in communication with the ICCD camera (16).

*Allowable Subject Matter*

Claims 12-24 are allowed over the prior art of record.

Claims 4, 5, 8-11, 27, 28 and 38-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 4 and 27, the prior art of record, taken alone or in combination, fails to disclose or render obvious an in-situ laser plasma apparatus comprising a second lens positioned equidistant between the main fiber and the second fiber, in combination with the rest of the limitations of the claims.

As to claim 8, the prior art of record, taken alone or in combination, fails to disclose or render obvious an in-situ laser plasma apparatus comprising a stop at one end of the probe, in combination with the rest of the limitations of the claim.

As to claims 12 and 38, the prior art of record, taken alone or in combination, fails to disclose or render obvious an in-situ laser plasma apparatus comprising at least one satellite fiber attached within the probe, in combination with the rest of the limitations of the claims.

As to claim 34, the prior art of record, taken alone or in combination, fails to disclose or render obvious an in-situ laser plasma apparatus comprising a probe having an indicator for indicating when the laser energy source is turned on, in combination with the rest of the limitations of the claim.

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As to claim 42, the prior art of record, taken alone or in combination, fails to disclose or render obvious an in-situ laser plasma apparatus comprising a transportable, vibration damped case, in combination with the rest of the limitations of the claim.

***Fax/Telephone Numbers***

Papers related to this application may be submitted to Technology Center 2800 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The fax number for Technology Center 2800 is (703) 872-9306 for regular and After Final communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner whose telephone number is (571) 272-2414. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached on (571) 272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**F. L. EVANS**  
**PRIMARY EXAMINER**  
**ART UNIT 2877**

file  
January 24, 2005